

From Bill Strum o AAOL
4/95

Due Diligence report on WAIS

Summary

WAIS is a software product and services company providing Internet products and services. The company is going through rapid growth and has not developed an operational infrastructure.

It is a UNIX only shop and ^{MAINTAINS} matins a typical academic UNIX culture among its technical staff and President, Brewster Kahle.

The companies strength is not in its WAIS Server product which is by their own admission a dated and out of the book implementation of an ISO (Z39.50) standard but is in its ability to build turn key Internet publishing solutions for strategic information providers.

WAIS's clear title to its intellectual properties raises serious questions. |

The company has no strong management on which a large company could be built. It successfully flourished out of the common culture of its staff and until recently its small size.

MANAGEMENT STRENGTH —

TITLE TO INTELLECTUAL PROPERTIES

Engineering

The engineering team consists of three groups, a development group, production services and operations.

Development has five full time^m staff, two contractors and a director. The Director was a new hire and had not as yet started as of March 28th. Most of the team was new, having been with WAIS less than one year. This group creates reusable products and technologies which are reused or sold as product offerings.

The staff met were very sharp UNIX types with journeymen to senior credentials. They had been hired out of Sun and other UNIX Meccas.

Production has four full time engineers, two contractors a coordinator and a Director. We did not meet the director. This group carries out project related work consisting of custom Web publishing systems.

The Operations group provides internal infrastructure support and maintains WAIS's servers which support their Web site and a number of clients (including Dunn And Bradstreet). This group has a manager, two engineers and an administrator.

Most of the technical staff have known each other prior to WAIS. They consider themselves part of the San Francisco hip engineering community. They chagrin at the thought of being mistaken for common Silicon Valley geeks. The decision to move to San Francisco was based on two driving issues; most of them lived in town, it was clearly the cool thing to do. ~ MULTIMEDIA

As long as WAIS continues to hire from their current common mold their loose infra structure will not melt down. Should they need to scale up and be forced to hire from a more diverse population a more formalized infrastructure will be needed.

They do not have any formal cost accounting in place to track their actual expenditures on custom development work. These systems are easily implemented but require a management team not currently in place to insure its accurate use.] *

Technology stems from the original WAIS Z39.50 port, joint development efforts with customers and partners and developed reusable technology developed in custom development activities.

Development uses adequate source code and version controls.

New products and technology flow from the Production Services group rather than the development organization. This is typical of a boot strapped organization that is revenue and cash flow driven.

The engineering team as a whole is quite good and highly motivated. Internet is still cool and they are a closely knit team. This environment is good for organizations in slow or no growth. The culture and infrastructure of WAIS engineering is difficult to quickly scale up but could with the addition of the right management staff.

WHAT IS WAIS VIEW?

Technology and Products

WAIS's major product is the WAIS Server. This \$15k UNIX only product is their bread and butter source of revenue. The product is mature and contains no proprietary technology. It is a straight forward WEB server adhering to Z39.50 protocol. The product appeals to a standards driven environment like governments, universities and government contractors. It also offers a safe choice for a conservative information provider who is more concerned with standards than performance.

TRUE?

The embedded search engine is known to be among the slowest.

The WAIS server technology was developed prior to WAIS Inc.'s creation. The initial technology was developed by Brewster Kahle when he was an employee at Thinking Machines, parallel architecture super computer company now in Chapter 11. The initial development of the standard was carried out by a consortium consisting of Apple, Thinking Machines, KPMG and Dow Jones.

Kahle was unclear on any intellectual property issues that might exist.

Answer?

They claim to have sold between 70 - 100 servers. They servers require substantial UNIX and CGI knowledge to install and operate.

The products generate substantial technical support. It has only been in the last month that a full time technical support person has been brought on board.

They currently receive 50 - 90+ technical support inquiries a week. This is a very large number compared to the installed base and is indicative of product problems.

TRUE?

It was estimated that 25% of the problems come from confusion in the documentation, 25%- 30% come from required information that is not documented, 25% come from porting incompatibilities and the rest come from real bugs. (20%)?

Their staff complained that sometimes it takes weeks to solve bugs and that they are dependent on Sun in many cases to bail them out. Although this environment could not be tolerated in a high volume Comdex channel product it is fairly typical and amazingly enough tolerated in the UNIX world.

WAIS sells source code to their products on an OEM basis. Their source code is mainly used as a Z39.50 wrapper for other servers and text engines. They provide a guaranteed accelerated time to market for developers and OEMs whose market requires Z39.50 compatibility.

Nobody buys their search engine technology as it is not competitive. A major weakness of WAIS technologies is the lack on any NT, Windows or Mac products, technology or real know how. In today's down sizing server environment this is a big hole.

SOLUTION?

WAIS has developed an interesting product / technology (it is not yet a true standalone product) called WAIS Gate. This is a strategic technology in Internet publishing.

WAIS Gate is the basis of all WAIS's product development work. WAIS's development architect is to convert their clients databases into SGML. WAIS Gate provides on the fly creation of an HTML data stream through templates from the SGML data. WAIS Gate provides the HTTPd client-server protocols and management required to facilitate data requests captured by the HTML server daemon. Removing the geek speak what WAIS Gate does is provide for a common data server format for all development applications and a common API for managing HTML data base publishing. This is critical technology to our plans in hosting and supporting IPs.

CRITICAL
How
Good/
Solid

This technology base was built from project required functionality into a reusable tool. This could be a nice \$25K - \$50K product and the hub of many \$200K - \$500K+ custom developments.

It is a long way from being a shrink wrapped product put is a tested reusable technology worth investment and productization. Again it is UNIX only.

WAIS has completed a half dozen major development projects successfully. Although they could not tell you whether they made or lost money on any individual job they have been generated satisfied clients. They claim to nine devilment projects under way.

Futures and Capabilities

They are focusing on the WAIS Gate product as the enabling engine of their custom work. This is a good strategy.

When questioned on their ability to build a functional Meta Server (PLS jargon) they thought it could easily be done with little if no new technology. They believe a Meta Server architecture could be built from Z39.50 protocols using their search engine. A better approach for AOL would be to use their architecture and Z39.50 API and build it on top of a faster text search engine,

Brewster -
YES?

Another issue which has been raised is the question of moving forward with Z39.50 at all. It is considered by some to be too complex and to be already dated in the marketplace. I have no insight into this point but it has been raised repeatedly by others.

Why -
What is
better?

WAIS is not doing any development on their text search technology. Their future growth will come as a solution provider and custom developer.

They are not developing on any platform except UNIX. This is a big weakness in them as a future product provider. NT will become a major market for Internet server products.

NAISOFT, ETC.

WAIS is extending its capabilities in the WAIS Gate product this is a key piece in any publishing strategy. Porting this technology into a multiplatform environment would complement the NaviServer product line.

DOABLE?

WAIS has entered into licensing agreement with The Encyclopedia Britannica people. They will be providing him with a superior text search technology under NT and will be porting WAIS protocol interface code to NT. The code will then be crossed licensed between the companies. Brewster was not sure the licensing would survive an acquisition. This should be checked.

Problems?

If WAIS can absorb and support the Britannica code it would propel them into the NT world. They will need to develop staff to support this.

CAN DO?

Intellectual Property Issues

WAIS has been very loose in its contracting and its intellectual property management. Their sales staff has negotiated the terms and conditions for licensing in all of their major development work. I have not reviewed these contracts but suggest that they be closely scrutinized.

*

A major issue is WAIS's underlying core in their WAIS server. The Initial technology and protocols was developed by a consortium consisting of Apple, Thinking Machines, KPMG and Dow Jones

Brewster was an employee at Thinking Machines and was intimately involved in the consortium. Brewster left Thinking Machines and founded WAIS Inc. This situation is an exact analogy as the Netscape - NCSA lawsuit over Mosaic browser technology. TWE?

I am not qualified to judge the merits of a potential infringement suite but it is certainly worth a very hard look. release from Thinking Machines would be a start in the right direction. Without knowledge of the consortium's agreements I can not comment on any potential issues.

WAIS has been very loose in general with its intellectual properties. It has put versions of its server out as freeware, made numerous source code sales and has cross-licensed much technology.

WAIS also provides free code embedded in their products and incorporates a Gopher Server that is also freeware.

Conclusion

WAIS has its strong points and its weak points. The relative strengths and weaknesses can only be quantified in the context of our interest in WAIS.

If we are looking for a product company they have many weaknesses. Performance, old architecture and lack of multiplatform support are key issues.

If we are looking for a building block to get us into custom Web publishing services this is a good start as they have been very successful. Their WAIS Gate technology is a key piece in supporting this effort.

A negative is the lack of internal infrastructure without enhancing this through the acquiring of additional management the organization is not scaleable.

Answers?

Their intellectual property management is problematic and requires more attention.

Answers?

To: kaiser, brewster@wais.com, bdunn1@aol.com, bruce@wais.com, drwhitt@aol.com
From: rob@navisoft.com (Rob Wilen)
Subject: Agenda for offsite

Here are the items I think we need to cover at our offsite Monday. They are not in priority order. I'm sure we can't do them all, so we'll have to do some kind of triage. BTW, by offsite I mean the small management group for the afternoon/evening session. Therefore this is a very uncensored list.

-- Rob

Organization

- Reorg
- Staffing/hiring plan
- Facilities/office
- Budget (rough working guidelines & S.O.P.)

The Deal

- Name/Corporate Identity
- Deal status
- When/how to announce?
- What to say in the interim?
- Cole's latest re WAIS' mission (Rob's report from Seybold)
- Very briefly: WAIS/PLS/Naviserver

Business model

- JVs with and without AOL
- Gateways
- Qualication: can we make any statements about work we definitely *won't* do?
- Will we continue to do corporate sites?
- Working with AOL
- How do we get paid for work we do for/with AOL (profit center v. cost center; "transfer pricing")
- Audrey's "slide"
- Communication & reporting
- Exclusives (eg Hearst)

Capacity

- Setting expectations. Bill tells customers we can have them up in 8 weeks. Can we?
- What do we have to do to scale to handle the 200?
- What do we have to start *right now*?

In reply to:

Date: Fri, 31 Mar 1995 05:53:22 -0500
From: Bdunn1@aol.com
To: rob@navisoft.com
Cc: brewster@wais.com, kaiser@navisoft.com
Subject: Re: Fwd: Internet Sales Status Report

I am aware that we are going to have a lot more to talk about than we have time. The brevity of this offsite was due largely to WAIS's concern about the deal not being done, and the time away from their business, if I remember right. I believe we will need a longer offsite in a few weeks, maybe after the acquisition if over (or more complete)

This limit really dictates that we have a sharp priority on those shorter term items which we need to address. I would hope that Websoft/WAIS could set the agenda to fit.

Regards,

Author: brewster@wais.com (Brewster Kahle) at Internet

Date: 3/31/95 8:51 PM

Priority: Normal

TO: Allen Morgan at WSGRPA2

TO: Christopher Younger at WSGRPA2

CC: bdunn1@aol.com at Internet

Subject: Fwd: Draft of AOL-WAIS closing schedule

----- Message Contents -----

Well, this is something. This schedule says we should have a bunch of stuff by today-- do we?.

Bill said he would call Mark Stevens, and Bill said to me that I should encouraged Allen to do the same.

towards april 17!

-brewster

>Date: Fri, 31 Mar 1995 13:15:09 -0500

>From: Bdunn1@aol.com

>To: brewster@wais.com

>Subject: Fwd: Draft of AOL-WAIS closing schedule

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>Forwarded message:

>From: hbb@fwpa.com (hbb)

>To: BDunn1@aol.com, SABurke@aol.com, BillyClone@aol.com, LenL@aol.com

>CC: ZGI@aol.com, EKirsh@aol.com, McConnors@aol.com, mcs@fwpa.com

>Date: 95-03-29 14:10:46 EST

>

>

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> Pursuant to discussions with Bill Dunn, we have set forth below a rough draft of a closing timetable for the business, technical and legal

>

> review and negotiations of the AOL acquisition of WAIS, assuming a signing

> date of April 17, 1995 with a closing as soon as practicable thereafter.

>

> Each item includes our best guess at the parties responsible for completion. The schedule is somewhat aggressive, and assumes that all parties are available for reviewing documents and negotiations. Bill

>Dunn

> has emphasized that time to market concerns are critical for the transaction.

>

> We look forward to receiving your comments. Because WAIS has requested a closing schedule, we suggest circulating the timetable to WAIS after the AOL team has fully reviewed it.

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> DRAFT CLOSING TIMETABLE.

>

> WEEK OF 3/27/95

>

-- Harry Boadwee
Fenwick & West